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John Ernest Rodriguez

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07/21/2008

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EXAMINER

ZHE, MENG YAO

ART UNIT

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2195

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/808,767	<b>Applicant(s)</b> RODRIGUEZ, JOHN ERNEST	
	<b>Examiner</b> MENG YAO ZHE	<b>Art Unit</b> 2195	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 19-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9, 19-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

1. Claims 1-9, 19-30 are presented for examination.

#### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-9, 19-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Abbott et al., Patent No. 6,314,463 (hereafter Abbott) in view of "Cooperative Scheduling of Tasks for Networked Uninhabited Autonomous Vehicles" by Alvaro Gil Devin Passino, Andrew Sparks, IEEE, 2003 (hereafter Sparks) further in view of "A Flexible Monitoring Platform to Build Cluster Management Services", IEEE, 2000 (hereafter Folliot).
4. Abbott and Sparks were cited in the previous office action.

5. As per claim 20, Abbott teaches a FIDO monitor comprising: a comparator to compare an average rate of task completion with a threshold (Column 26, lines 36-43);  
the throttle to reduce the number of tasks executed by an apparatus coupled to the throttle if the average rate of task completion is higher than the threshold (Column 7, lines 50-61; Column 10, lines 24-28; Column 17, lines 39-49; Column 26, lines 36-43).

Abbott does not specifically teach that the threshold is the average of the second queue, which is essentially the average of average rates of task completion over time.

However, Sparks teaches a way of tracking the average of the averages of task waiting time for the purpose of setting a bound or thresholds on performance metrics that are used for cooperative scheduling on multi-tasking system performance (Pg 526, right column, second paragraph; Abstract). It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Abbott where number of connections are reduced if the average of task completion is larger than a threshold, with tracking the average of averages of task performance characteristics, as taught by Spark, such that bound (or the thresholds) on performance metrics are used for cooperative scheduling (abstract).

Abbott in view of Sparks does not specifically teach wherein the comparator triggers comparisons more often as the number of connections is decreased.

However, Folliot teaches dynamically varying system monitoring frequency depending on certain conditions, specifically the load of the system is monitored more frequently when load variation is occurring (Abstract; Section 3.1. The System Monitoring Agent; Section titled Monitoring Conditions, 1<sup>st</sup> and 2<sup>nd</sup> Para) for the purpose of better system control during important situations.

It would have been obvious to modify the teachings of Abbott in view of Sparks with dynamically varying system monitoring frequency depending on certain conditions, specifically the load of the system is monitored more frequently when load variation is occurring, as taught by Folliot, such that in the specific situation where the load of the

system changes such as the average of the first queue being greater than the average of the second queue, which causes a reduced number of connections, one would trigger the monitoring of results of the comparator more often, because it allows for better system control during important situations.

6. As per claim 19, Abbott teaches wherein the throttle further increases the number of connections available if the average rate of task completion is lower than the average of the average rates of task completion (Column 8, lines 30-49).

7. As per claim 1, Abbott teaches an apparatus comprising: tracking a current rate of task completion (Column 24, lines 40-42; Column 26, lines 7-8); tracking an average rate of task completion over time (Column 26, lines 3-4);

a comparator to compare an average of the current rate of task completion and a threshold (Column 26, lines 36-43);

a throttle to reduce the number of connections available on the apparatus if the comparator indicates that the average of the current rate of task completion is larger than the threshold (Column 7, lines 50-61; Column 10, lines 24-28; Column 17, lines 39-49; Column 26, lines 36-43).

Abbott does not specifically teach using two queues to each track a current rate of task completion and an average rate of task completion over time.

However, Abbott teaches using queues for the purpose of monitoring load information on the system (Column 14, lines 1-15). It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Abbott with using queues to track current rate of task completion and an average rate of task completion over time, because queues allow for a way to monitor load information on the system.

Abbott does not specifically teach that the threshold is the average of the second queue, which is essentially the average of average rates of task completion over time.

However, Sparks teaches a way of tracking the average of the averages of task waiting time for the purpose of setting a bound or thresholds on performance metrics that are used for cooperative scheduling on multi-tasking system performance (Pg 526, right column, second paragraph; Abstract). It would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Abbott where number of connections are reduced if the average of task completion is larger than a threshold, with tracking the average of averages of task performance characteristics, as taught by Spark, such that bound (or the thresholds) on performance metrics are used for cooperative scheduling.

Abbott in view of Sparks does not specifically teach wherein the comparator triggers comparisons more often as the number of connections is decreased.

However, Folliot teaches dynamically varying system monitoring frequency depending on certain conditions, specifically the load of the system is monitored more frequently when load variation is occurring (Abstract; Section 3.1. The System

Monitoring Agent; Section titled Monitoring Conditions, 1<sup>st</sup> and 2<sup>nd</sup> Para) for the purpose of better system control during important situations.

It would have been obvious to modify the teachings of Abbott in view of Sparks with dynamically varying system monitoring frequency depending on certain conditions, specifically the load of the system is monitors more frequently when load variation is occurring, as taught by Folliot, such that in the specific situation where the load of the system changes such as the average of the first queue being greater than the average of the second queue, which causes a reduced number of connections, one would trigger the monitoring of results of the comparator more often, because it allows for better system control during important situations.

8. As per claims 2, 27, Abbott does not specifically teach wherein the first queue and the second queue are circular queues. However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to use any types of queue, which include circular queues.

9. As per claims 3, 25, Abbott teaches a timer to compute a length of time a connection is used (Table 2).

10. As per claims 4, 26, 29, Abbott does not specifically teach wherein the average of values stored in the first queue is inserted into the second queue. However it would

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have been obvious for one having ordinary skill in the art at the time of the applicant's invention to add the average into the second queue of averages since the second queue is specifically used to track the average of averages.

11. As per claims 5, 21, 23, Abbott teaches a trigger mechanism to trigger a comparison (Column 26, lines 36-44). Folliot teaches the comparison being triggered more often as number of connection is increased (Section titled Monitoring Conditions, 1<sup>st</sup> and 2<sup>nd</sup> Para).

12. As per claims 6, 24, Abbott does not specifically teach a powers array to indicate when to trigger a comparison to the trigger mechanism, the powers array being an exponentially increasing/decreasing function. However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to modify the teachings of Abbott with a power array since for any trigger mechanism, there needs to be an object that governs when the trigger starts.

13. As per claim 7, Abbott teaches a sensitivity multiplier applied to the average of the second queue to affect reaction speed (Column 24, lines 24-27, lines 46-67).

14. As per claim 8, Abbott teaches wherein the connections comprise network connections for sending messages, and wherein the apparatus comprises a multimedia



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messaging service center (Column 6, lines 28-35; Column 7, lines 1-5).

15. As per claims 9, 30, Abbott teaches wherein the rate of task completion tracked by the system comprises timing one subtask of a complex task, the subtask reflecting a load on the apparatus (Column 26, lines 36-45).

16. As per claim 22, Abbott does not specifically teach adjusting the comparison trigger based on results of a last comparison.

However, it would have been obvious to one having ordinary skill in the art at the time of the applicant's invention to adjust the comparison trigger based on results of a last comparison since adjusting threshold triggers is generally done to accommodate dynamic changes in task management.

17. As per claim 28, Abbott teaches wherein the average of the first queue and the average of the second queue are calculated when a comparison is triggered (Column 25, lines 50-53; Column 26, lines 8-10, lines 36-43).

### ***Response to Arguments***

18. Applicant's arguments with respect to claims 1-9, 19-30 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

19. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MENGYAO ZHE whose telephone number is (571)272-6946. The examiner can normally be reached on Monday Through Friday, 7:30 - 5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on 571-272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Meng-Ai An/  
Supervisory Patent Examiner, Art Unit 2195